

Carver Press

MSE 360 - Fall 2009

Revised: 9/2/2009

Make sure the machine is ready for use:

- Release the pressure to lower platen 2 by slowly and carefully rotating the central knob counter-clockwise. Once the platen is lowered, close the knob clockwise until it stops.
 - Ensure that there is ample space between the two platens to fit the die. If platen 1 needs to be raised first rotate the large nuts above the platen to the desired height, then pump platen 2 up to lift platen 1 up against the large nuts. Then raise the smaller nuts up to hold platen 1 securely in place.
- 1) Put one of the plungers halfway into the cylindrical die with the shiny end inwards.
 - 2) Pour **0.5 grams** of BaTiO₃ powder into the die.
 - 3) Put the second plunger into the die while keeping the powder roughly centered in the die.
 - 4) Put this apparatus into the press, using the steel plates between the die and the platens to protect the platens from damage. Make sure that the die is roughly centered on the press.
 - 5) Pump platen 1 up until you reach the desired pressure. For us this is **2950 lbs.** spread over the 0.5 in. diameter die yielding us 15,000 psi.
 - 6) Let the sample sit at this pressure for **1 minute**.
 - 7) Carefully release the pressure by slowly and carefully turning the central knob counter-clockwise until you can remove the die.
 - 8) Pull out one plunger. Then push the other plunger through until you can remove your sample.